

Docket No. 2001-0095-1  
USSN10/029,319

### Double Helix Design

Applicants respectfully submit that the double helix concept as shown in FIG. 5 and previously claimed in Claim 7 and which is now limiting Claim 1 is not disclosed in Hoffman '984. As Applicants explain at the bottom of page 7, the prior art helix blade design produced a longitudinal pressure gradient which was very undesirable. This was avoided with the double helix design shown in FIG. 5 of the present application. This is an important improvement in gas discharge laser fan design which is not shown or suggested by the prior art.

### Conclusion

For all the above reasons, Applicants' submit that as presently limited, Claim 1 should be allowable and the remaining outstanding claims should be allowable since they are dependent on and further limit an allowable claim. Therefore, Applicants submit that the outstanding claims, namely Claims 1-6 and 10-19 should be allowable and Applicants request that they be allowed and the above-identified application allowed to issue as a patent.

### Marked Up Copy

Applicants have attached marked up copy of earlier versions of the claims showing changes made of the claims as now amended.

Respectfully submitted,



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October 7, 2002

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**VERSION WITH MARKINGS TO SHOW CHANGES MADE**  
**For USSN 10/029,319**

1. An electric discharge laser apparatus including a tangential fan comprising:
  - A) a laser chamber comprising:
    - 1) a laser gas,
    - 2) at least two longitudinal electrodes ~~configured for producing to produce~~ electric discharges defining a discharge region in said gas,
    - 3) a tangential fan for circulating said laser gas said fan defining a rotation axis and a circumference substantially concentric with said rotation axis and comprising a monolithic fan blade structure, said structure comprising:
      - a) a plurality of blade members, having non-uniform thickness and separated into at least 18 segments disposed in an approximate double helix pattern proximate to said circumference; and
      - b) a plurality of at least 17 hub members supporting said blade members and defining fan blade segments; said blade members being positioned to minimize adverse effects in said discharge region of reflection of discharge generated acoustic shock waves from said blade members,
  - B) a pulse power source for providing high voltage electrical pulses to said electrodes to produce electric discharges between said electrodes.
7. Canceled
8. Canceled
9. An apparatus as in Claim ~~7~~ 1 wherein said blade members have a cross section corresponding to an arc of ~~an~~ a circle.

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10. An apparatus as in Claim ~~7~~ 1 wherein said circle is defined by a radius of less than 1.0 inch.